

# Construction Advisory

CA 2006-04  
March 27, 2006

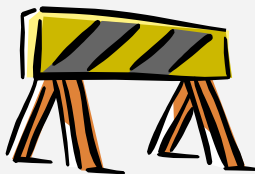
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Index: Traffic Control

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Construction Advisory  
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BJO:JKG

## Temporary Concrete Barrier

MDOT's temporary concrete barrier (TCB) design recently failed the NCHRP 350 crash worthy requirements. The design in Standard Plan R-52 failed using 10-foot segments with ½-inch diameter galvanized, wire centered, steel cable loops. Due to the results, retrofitting of some existing TCBs is required before using them on a project. All other segment lengths or larger cable diameter are not affected at this time.

### For projects let January 2006 or before:

For existing 10 foot segments with ½ -inch diameter cable only, the contractor is permitted to add an additional 5/8-inch galvanized, 6 x 19 IWRC wire centered, steel cable to the middle of each end of the TCB segment. The steel cable must meet ASTM A1023 with a minimum breaking strength of 31,860 lbs.

Drill two ¾-inch diameter holes a minimum of 15 inches deep at each attachment location. The center of the holes shall be 3¾ inches apart, +/- ½-inch. Insert each end of the 5/8-inch cable in the holes to form a loop. The inside of the loop must protrude from the concrete the same amount as the existing cable loops. Bond the cable with a bonding material from the Qualified Products List.

Perform pull-out tests as described in MTM-716. The sustained pull-out requirement of 45,000 lbs is the governing criterion for acceptability, regardless of the bonding material used.

MDOT will reimburse once at an extra \$100 per 10-foot segment for the addition of the 5/8-inch cable on each end. Once the retrofit is made, paint a large pink "X" on

one end of each segment. The mark is used to document that no further payment is warranted.

### For projects let February 2006 and after:

For TCB with 10-foot segments and ½-inch steel cable loops, a retrofit of adding a 5/8-inch diameter steel cable is permitted as described above. No additional payment will be made for the retrofit.

Please share this information with consultants and local agencies in your area.